Claims

1. An isolated nucleic acid molecule encoding the protein cyplasin with a deleted or non-functional secretory signal sequence or a protein exhibiting biological properties thereof, being selected from the group consisting of

(a) a nucleic acid molecule encoding a protein comprising the amino acid sequence from position 20 or 53 to position 558 of Figure 2(a);

(b) a nucleic acid molecule comprising the sequence of Figure 2(b);

(c) a nucleic acid molecule the nucleic acid sequence of which deviates from the nucleic sequences specified in (a) or (b) due to the degeneration of the genetic code; and

(d) a nucleic acid molecule, which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a), (b) or (c).

2. A recombinant vector containing a nucleic acid molecule of claim 1.

3. The recombinant vector of claim 2 wherein the nucleic acid molecule is operatively linked to regulatory elements allowing transcription and synthesis of a translatable RNA in prokaryotic and/or eukaryotic host cells.

4. A recombinant host cell which contains the recombinant vector of claim 2 or 3.

5. The recombinant host cell of claim 4, which is a mammalian cell, a bacterial cell, an insect cell or a yeast cell.

6. An isolated protein exhibiting biological properties of

cyplasin encoded by a nucleic acid molecule of claim 1.

7. A method of making a protein exhibiting biological properties of cyplasin comprising:

(a) culturing the recombinant host cell of claim 4 under conditions such that said protein is expressed; and

(b) recovering said protein.

8. A method of making a protein in eukaryotic host cells which is cytotoxic for said cells when secreted from said cells or externally applied comprising:

(a) culturing a host cell transfected with a nucleic acid sequence encoding said protein with a deleted or non-functional secretory signal sequence under conditions such that said protein is expressed; and

(b) recovering said protein.

9. The method of claim 8 wherein the eukaryotic cells are mammalian cells.

10. The protein produced by the method of claim 7 or 8.

11. A pharmaceutical composition comprising a nucleic acid molecule of claim 1 or a protein of claim 6 or 10.

12. Use of a nucleic acid molecule of 1 or a protein of claim 6 or 10 for preparing a pharmaceutical composition for treating cancer.